

National Climatic Data Center

DATA DOCUMENTATION

FOR

DATA SET 3290 (DSI-3290)

Data Set Summary Observations

March 19, 2003

National Climatic Data Center
151 Patton Ave.
Asheville, NC 28801-5001 USA

Table of Contents

Topic	Page Number
1. Abstract.....	3
2. Element Names and Definitions:	3
3. Start Date.....	6
4. Stop Date.....	6
5. Coverage.....	6
6. How to order data.....	6
7. Archiving Data Center.	6
8. Technical Contact.....	7
9. Known Uncorrected Problems.....	7
10. Quality Statement.....	7
11. Essential Companion Data Sets.....	7
12. References.....	7

1. **Abstract:** Summary observations (also known as 6 hourly data) are collected primarily at major airports and military bases by trained personnel or automated equipment that has been tested by the controlling agency. The controlling agencies are the National Weather Service (NWS), the Federal Aviation Administration (FAA), the US Air Force and the US Navy. The NWS and FAA sites are located in the contiguous U.S., Alaska, Puerto Rico, Hawaii and other Pacific Islands.

In 1984 there were approximately 400 stations being processed for inclusion in this digital database. These stations consist of principle climatological stations operated by the NWS, FAA, and other stations having highly trained observers. It must be noted that NCDC has the observations from the time the station opened, but the [NWS](#) has the current data. Official surface weather observation standards can be found in the [Federal Meteorological Handbook](#).

This Summary Observation data file contains Surface Synoptic data information from the National Weather Service's (NWS) Form MF1-10B and the forms that have replaced them.

Since January 1984, digital Summary Observation data are produced routinely. Prior to 1984 the only Summary Observation information available was published in the Local Climatological Data (LCD) bulletins produced by the National Climatic Data Center (NCDC).

This digital file contains record type, station identification, date, source codes, data measurement and quality flags, time of values, and element types:

TEMPERATURE:	Maximum and minimum for synoptic period.
PRECIPITATION:	Accumulated precipitation for synoptic period.
SNOWFALL:	Accumulated snowfall for synoptic period.
SNOWDEPTH:	Snow depth for synoptic period.

A maximum of six data entries are possible during a 24-hour Local Standard Time (LST) period. These data times are recorded in LST but they represent 6-hourly observations taken at 0000, 0600, 1200, and 1800 Greenwich Mean Time (GMT). The first and second data times can be the same time. The first recording period would be from midnight to a given hour, where the second occurrence would be the true 6-hourly time. The sixth data entry will be 2400 (last observations of a 24-hour day).

2. **Element Names and Definitions:** Each logical record contains one station's six hourly data values for a specific meteorological element for a period of one day. The record consists of an identification portion, and a data portion. The identification portion identifies the record type, observing station, element type, element units, year/month, source codes, day, and number of values. The data portion contains the meteorological observation for the six hourly data values and quality flags. The data portion is repeated for as many six hourly values as occur in a day (as few as one as many as 12, due to missing or edited values).

RECORD TYPE

The type of data stored in this record. Value is "SMY". Each record contains on day of six hourly values.

STATION-ID

Contains the WBAN Station Number. (Assigned by NCDC.) ID range of the values = 00000000-00099999. Five digit station numbers are always right justified and

:

zero filled.

METEOROLOGICAL ELEMENT-TYPE

The type of meteorological events stored in this record. Range of values are listed below.

TMAX

The maximum six hourly temperature (SYNOPTIC PERIOD).

DATA-VALUE = -00199 to b00199 Whole degrees F.

TMIN

The minimum six hourly temperature, (SYNOPTIC PERIOD).

Data-Value = -00199 to b00199 whole degrees F.

PRCP

The accumulated precipitation for the six hourly period.

(SYNOPTIC PERIOD). Rainfall and melted precipitation are included. Trace is less than .005 inch. DATA-VALUE

= b00000 to b09999 inches and hundredths. Check FLAG1 for Trace Indicator.

SNOW

The snowfall amount for the six hourly (SYNOPTIC) period.

DATA-VALUE = b00999 in inches and tenths. Trace of snow is less than .05 inch.

Check FLAG1 for Trace Indicator.

SNWD

The depth of snow observed on the six hourly (SYNOPTIC) period.

DATA-VALUE = b00000 to b00999 in whole inches. Trace of snow depth is less than 0.5 inch. Check FLAG1 for TRACE Indicator.

ELEMENT

The unit and decimal position of the DATA-VALUE for this record.

ELEMENT-UNITS TABLE

Fb	Whole degrees Fahrenheit
HI	Hundredths of Inches
TI	Tenths of Inches
Ib	Whole Inches

YEAR

This is the year of record. Range = 1984 through current year processed.

MONTH

This is the month of record. Range = 01 - 12.

SOURCE CODE-1

Contains a code indicating the primary source of the original record this element was taken from.

Range is 1-9.

SOURCE CODE TABLE

1	Original Manuscript
2	SRRS
3	AFOS
4	DATSAV

:
:
:

5	NMC
6	Foreign Keyed
7	MAPSO
8	SRRS plus
9	Other/unknown
A	ASOS

Source codes reflect normally expected data sources and do not necessarily indicate the actual source of a specific item.

SOURCE CODE-2

Contains a code indicating the back-up source of the original record this element was taken from.

Range is 1-9.

SOURCE CODE TABLE

1	Original Manuscript
2	SRRS
3	AFOS
4	DATSAV
5	NMC
6	Foreign Keyed
7	MAPSO
8	SRRS 'A' side, manuscript 'B' side
9	Other/unknown

DAY

Contains the day of the record. Range 01-31.

NUM-VALUES

This notates the actual number of values reported. Range of values is 001-012.

NOTE: A record may contain fewer or more data values might expect. A daily record or hourly value may contain as few as 1 data value or as many as 12. This is primarily due to missing or edited data. If a particular data value was not taken or is unavailable there is no entry for it. Also, when erroneous data are encountered during quality control the original values are flagged and are followed by replacement values (see FLAG-2 TABLE for details).

TIME-OF VALUE

Contains the hour and minute of the hourly element value. Range is 0000-2400. In many cases there will be two occurrences for the same TIME-OF-VALUE. This is true because the first recording period is midnight to a given hour, where the second night to a given hour, where the second occurrence is the true six-hourly synoptic time. 2400 is the last synoptic time of the day. The hour is in the leftmost two digits and the minute is in the rightmost two digits. Hour is reported using the 24-hour clock. (Minutes are always 00.)

SIGN OF METEOROLOGICAL VALUE

This is the 'SIGN' of the meteorological data value. This field contains either a blank or a minus sign (never a plus sign).

DATA-VALUE

Actual data value. This field is a five digit integer. Units and decimal

:
:

position are indicated in the ELEMENT-UNITS field described in Tape Field 004.

FLAG-1

The data measurement FLAG.

FLAG-1 TABLE (Measurement Value)

A	Accumulated value through previously missing Observation period(s).
D	Derived value
E	Estimated value
T	Trace (data value = 00000)
b	(blank) Flag not necessary

FLAG-2

The data quality FLAG.

FLAG-2 (Quality Flag)

0	Observed data has passed all internal consistency checks.
1	Validity indeterminable
2	Observed data has failed an internal consistency check (subsequent edited value follows observed value)
3	Observed data has failed a consistency check (Low level of confidence for observed value)
4	Observed data value invalid - no edited value follows
E	Edited data value passes all system checks - no observed value present
S	Manually edited data passes all system checks

3. **Start Date:** 19840101

4. **Stop Date:** 1998

5. **Coverage:** U.S.A., Caribbean Islands, Pacific Islands, and other overseas stations of the National Weather Service.

- a. Southernmost Latitude: 90S
- b. Northernmost Latitude: 90N
- c. Westernmost Longitude: 180W
- d. Easternmost Longitude: 180E

6. **How to Order Data:**

Ask NCDC's Climate Services about the cost of obtaining this data set.

Phone: 828-271-4800

FAX: 828-271-4876

E-mail: NCDC.Orders@noaa.gov

7. **Archiving Data Center:**

National Climatic Data Center

Federal Building

151 Patton Avenue

Asheville, NC 28801-5001

Phone: (828) 271-4800.

:
:

8. **Technical Contact:**

National Climatic Data Center
Federal Building
151 Patton Avenue
Asheville, NC 28801-5001
Phone: (828) 271-4800.

9. **Known Uncorrected Problems:** No information provided with original documentation.

10. **Quality Statement:** No information provided with original documentation.

11. **Essential Companion Datasets:** No information provided with original documentation.

12. **References:** No information provided with original documentation.